

UNDULATING AMUSEMENT SLIDE

CROSS-REFERENCE TO RELATED APPLICATION

This application claims the benefit of U.S. Provisional Patent Application
5 No. 60/334,474, filed on November 16, 2001.

FIELD OF THE INVENTION

The present invention pertains to amusement slides, particularly water slides.

BACKGROUND OF THE INVENTION

In known water slides, a user typically coasts along a slippery surface from a
10 higher elevation to a lower elevation, either in a straight line path or a path that includes
curves. A water slide may take the form of a flume in which a large volume of water is
introduced at the entry for lubricating the surface of the slide and for assisting in moving
the user along the flume, and/or one or more sections that are misted with water to
maintain the slippery characteristic of the slide surface. Sometimes the user will sit or lie
15 on a mat or ride in a vehicle designed to coast along a predefined route. Water slides
typically terminate at an exit pool.

SUMMARY OF THE INVENTION

The present invention provides an amusement device in the nature of a slide
having a long predetermined path along its length from a high elevation at a first end
20 portion thereof to a lower elevation at a second end portion thereof. The slide has a rider
entrance between the first and second end portions and at an elevation below the high
elevation. A rider is introduced through the entrance in a direction toward the first end
portion such that the rider slides upward toward the first end portion while decelerating,
followed by sliding travel of the rider along the predetermined path from the first end
25 portion to the second end portion.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing aspects and many of the attendant advantages of this invention will become more readily appreciated as the same become better understood by reference to the following detailed description, when taken in conjunction with the accompanying
5 drawings, wherein:

FIGURE 1 is a side elevation of an undulating amusement slide in accordance with the present invention;

FIGURE 2 is a top plan of the slide of FIGURE 1;

FIGURE 3 is an enlarged, somewhat diagrammatic bottom perspective of a
10 portion of the slide of FIGURE 1, with parts shown in exploded relationship, and FIGURE 4 is a top perspective of such portion with parts assembled;

FIGURE 5 is a somewhat diagrammatic, enlarged transverse section taken along line 5--5 of FIGURE 2; and

FIGURE 6 is a top plan of a modified slide in accordance with the present
15 invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

With reference to FIGURE 1 and FIGURE 2, an embodiment of a slide 10 in accordance with the present invention includes an entry platform 12 at a high elevation, reachable by several flights of stairs 14. Platform 10 includes a recessed entry box 16
20 into which water is continuously pumped. The entry box is configured so that water overflows into a downhill "inlet section" or segment 18 which, for much of its length, can function as a flume. A user may slide in the flume or ride in a buoyant and resilient vehicle, such a donut-shaped, inflated inner tube, or a double "figure 8" tube having two cavities for two riders. Upright sidewalls define the long, narrow path of the inlet
25 segment.

The upper portion 20 of the inlet segment 18 is curved gradually downward to a more steeply inclined central section 22 for acceleration of the rider or riders. The central section 22 can be substantially linear, leading to the lower portion 24 which is curved oppositely from the upper portion 20 to the bottom end 26. The bottom end 26 can be
30 approximately horizontal. In the case of an inlet segment 18 having an upper portion 20 formed as a flume and carrying a substantial volume of water introduced at the entry box 16, roller drains 28 can be provided at approximately the center and toward the

bottom of the inlet section 18. Drains of this type are illustrated in FIGURE 3 and FIGURE 4. These views also illustrate the general contour of the narrow inlet segment 18. The roller drain sections include an essentially flat, horizontal bottom 21 along which the rider's vehicle coasts, and curved sidewalls 23 for retaining the rider or vehicle in the flume. Rollers 29 extend transversely across the bottom and are spaced apart slightly so that water in the trough will pass between the rollers.

Returning to FIGURES 1 and 2, by the time the rider reaches the bottom 26 of the inlet section 18, he or she will be traveling at a high rate of speed along the slippery bottom surface of the flume, although by this time the slippery characteristics of the inlet section may be maintained by misting since essentially all or at least most of the water introduced from the entry box will have passed through the roller drains 28. At this point, i.e., the bottom or outlet 26 of the inlet segment (which also is the rider entrance for the next segment), the rider passes to an upwardly curved section 30 of a separate slide portion or segment 32 which also can be referred to as the "exit slide." In the illustrated embodiment, the exit slide 32 is substantially wider than the inlet segment 18, allowing for unpredictable twists and turns of the rider or vehicle after it is propelled out of the inlet segment 18. The inlet segment 18 preferably enters the exit slide 32 at an angle so that the rider is propelled toward the center of the exit slide.

Upon entering the exit slide, the rider and vehicle decelerate from a high rate of speed as they transit upward along the upper curved section 30. Ultimately, the rider will travel back down along the upper curved section, past the bottom 26 of the inlet section 18. Along the entire exit slide 32, the slippery characteristics of the slide can be maintained by misting, such as by apparatus of the type shown in FIGURE 5. Nozzles 34 can be spaced along the length of the slide, with some nozzles pointed inward and others more outward to lubricate the entire flat bottom surface 35 of the slide. Sidewalls 36 are provided to retain the rider and vehicle in the exit slide.

Referring to FIGURES 1 and 2, from a location close to the top of the upper curved section 30, the rider accelerates downward to a generally horizontal bottom section 38, then up and over a hill section 40 which may be designed to follow an approximate free fall parabolic path or which may result in the rider becoming airborne for a short distance after passing the top 42 of the hill. The rider then coasts along an exit section 46 which is inclined downward at a small acute angle, such as approximately

5 degrees, for maintaining a fast but safe rate of speed or slight deceleration until the rider exits the slide into an exit pool 48. The exit slide defines a separate, long, predetermined path along its length from the higher elevation toward the top of section 30 to which a rider is propelled, to the lower elevation at the exit end.

5 While an embodiment of the invention has been illustrated and described, it will be appreciated that various changes can be made therein without departing from the spirit and scope of the invention. For example, the invention has been described with reference to a flume inlet section 18 for introducing the rider into the main slide 32. This also could be achieved by a misted inlet slide, in which case the drains 28 could be deleted. In
10 another embodiment, the rider could be propelled onto the main slide 32 in a different manner. For example, with reference to FIGURE 6, a mechanical acceleration component 50 could be provided to introduce the rider onto the main slide at approximately the same location and speed. The mechanical acceleration apparatus could include one or more conveyors or spring-loaded or elastic-cord members to propel one or
15 more riders onto the main slide 32 for travel upward along the curved section 30, then downward and over the hill section 40 to an exit section 46. Similarly, the exit slide could be provided without a hill section 40, or with more than one hill, and/or with curves.